ACC NR: AP7006151 SOURCE CODE: UR/0056/67/052/001/0282/0292

AUTHOR: Letokhov, V. S.; Suchkov, A. F.

ORG: Physics Institute im. P. N. Lebedev, Academy of Science, SSSR (Fizicheskiy institut Akademii nauk SSR)

TITLE: Dynamics of generation of a giant coherent light pulse, II.

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy f'ziki, v. 52, no. 1, 1967, 282-292

TOPIC TAGS: ~~giant pulse laser~~, Q switched laser, laser theory, LIGHT PULSE, LASER PULSATION

ABSTRACT: This paper is a continuation of an earlier work by the authors (ZhETF, v. 50, no. 4, 1966, 1148) on the space-time evolution of a giant light pulse from a Q-switched laser. In the present paper, a theoretical analysis is made of the formation of a "jet" in the linear generation region, its dependence on the initial field intensities, and the transverse development of generation in the nonlinear region. The effect of inhomogeneities of the reproductive index of a medium inside the cavity on the dynamics of generation of a giant pulse is considered. The postulated existence of a transverse development of a giant pulse was recently confirmed experimentally by R. V. Ambartsumyan et al. (ZhETF, 51, 1966, 406) and

Card 1/2 UDC: none

ACC NR: AP7006151

V. V. Korobkin et al. (ZhETF, PvR, 3, 1966, 301). The effect was also substantiated by Ambartsumyan et al. (ZhETF, PvR, 4, 1966, 19) in connection with the propagation of a giant pulse in a nonlinear medium. Recommendations are made for the construction of giant pulse lasers with an extremely short pulse duration and minimal beam divergence. Orig. art. has: 6 figures and 27 formulas. [YK]

SUB CODE: 20/ SUBM DATE: 06Aug66/ ORIG REF: 008/ OTH REF: 002/ ATD PRESS: 5116

Card 2/2

SUCHKOV, A. F.

Gosudarstvennyye Dokhody SSSR. (State Revenue of the USSR)
Moskva, Gosfinizdat, 1949. 191 P. Tables.

So: N/5
771.2
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SUCHKOV, A. K.

.State Revenues of the USSR (Gosudarstvennyye dokhody SSSR), published by Gosfinizdat, Moscow, 1952. 199 pp. diags; tabs.

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SUCHKOV, A [illegible] K

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DOKHODY GOSUDARSTVENNOGO BYUDZHETA SSSR [REVENUES OF THE STATE BUDGET OF THE USSR] MOSKVA, GOSFINIZDAT, 1955.
304 P. TABLES.
BIBLIOGRAPHICAL FOOTNOTES

30(5) PHASE I BOOK EXPLOITATION SOV/2297

Suchkov, Aleksandr Konstantinovich, Yaroslav Mikhaylovich Sviderskiy, and Vladimir Artem'yevich Payevskiy

Gosudarstvennyye dokhody SSSR (Government Revenues of the USSR) Moscow, Gosfinizdat, 1958. 295 p. Errata slip inserted. 7,000 copies printed. Ed.: A.K. Suchkov, Docent; Resp. Ed.: V. Samoylov; Ed. of Publishing House: G. Yeremeyeva; Tech. Ed.: T. Telegina.

PURPOSE: This book has been approved by the Department of Schools and Specialized Personnel of the Ministry of Finance as a textbook for finance tekhnikums.

COVERAGE: This textbook has been written for the course Government Revenues of the USSR and as such discusses the following state-operated sources of budgetary revenues: turnover tax, entertainment tax, receipts from profits of state establishments and organizations, income tax from establishments of the cooperative system and public organizations, income tax on collective farms, forest income, and others. The first two chapters

Card 1/8

SUCHKOV, Aleksandr Konstantinovich

Gosudarstvennyye Dokhody SSSR (by) A. Suchkov, Ya. Sviderskiy (1) V. Payevskiy. Moskva, Gosfinizdat, 1960.
295 p. tables.
Bibliographical footnotes.

BAGDASAROV, A.A., professor, otvetstvennyy redaktor; BUKIN, V.N., professor, doktor biologicheskikh nauk, redaktor; DUL'TSIN, M.S., professor, doktor meditsinskikh nauk, redaktor; CHMELNTSOVA, T.A., redaktor; SUCHKOV, A.V., redaktor; GABERLAND, M.I., tekhnicheskiy redaktor

[Vitamin B_{12} and its clinical uses] Vitamin B_{12} i ego klinicheskoe primenenie. Moskva, Gos. izd-vo med. lit-ry, 1956. 222 p. (MLRA 10:1)

1. Chlen-korrespondent AMN SSSR (for Bagdasarov)
(VITAMINS--B)

SUCHKOV, A.V.

Vitamin B_{12} content of blood serum in liver diseases. Terap.arkh. 30 no.7:43-51 Jl'58 (MIRA 11:8)

1. Iz gospital'noy terapevticheskoy kliniki imeni A.A. Ostroumova (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L. Myasnikov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(VITAMIN B_{12}, in blood,
in liver dis. (Rus))
(LIVER DISEASES, blood in,
vitamin B_{12} (Rus))

SUCHKOV, A. V., Candidate Med Sci (diss) -- "The problem of the vitamin B-12 (cyanocobalamine) content in the blood serum in diseases of the liver and the blood system". Moscow, 1959. 17 pp (First Moscow Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL,No 24, 1959, 152)

SUCHKOV, A.V.

Specificity and nature of the increased vitamin B_{12} content of blood serum in patients with epithelial lesions of the liver and acute chronic myeloid leukemia. Terap.arkh. 31 no.9:74-79 S '59.
(MIRA 12:11)

1. Iz gospital'noy terapevticheskoy kliniki imeni A.A. Ostroumova (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L. Myasnikov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(VITAMIN B_{12} blood)
(LIVER DISEASES blood)
(LEUKEMIA MYELOCYTIC blood)

DANILYAK, I.G.; SUCHKOV, A.V.

Complications in the gastrointestinal tract during hormone therapy. Sov.med. 24 no.11:123-126 N '60. (MIRA 14:3)

1. Iz gospital'noy terapevticheskoy kliniki (dir. - deystvitel'nyy chlen Akademii nauk SSSR prof. A.L.Myasnikov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova i yeye filiala (zav. - prof. B.B.Kogan) na baze klinicheskoy bol'nitsy imeni "Medsantrud".
(HORMONE THERAPY) (HEMORRHAGE)
(PEPTIC ULCER)

SHCHERBAN', V.A.

Light scattering in solutions and its relation to other phenomena. Vest. LGU 19 no.16:53-59 '64.

(MIRA 17:11)

TARASOV, K.Ye., dotsent; SUCHKOV, A.V.; DANILYAK, I.G.

Significance of the laws of formal logic in medical thinking.
Trudy 1-go MMI 37:150-156 '65.

(MIRA 18:8)

SUCHKOV, A.V.; DEMIDOV, A.T.

Development of gastric and duodenal ulcer in chronic nonspecific diseases of the lungs. Sov. med. 28 no.3:90-94 Mr '65.

(MIRA 18:10)

1. Filial Gospital'noy terapevticheskoy kliniki I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova na baze 67-y Gorodskoy bol'nitsy (rukovoditel' - prof. B.B.Kogan, glavnyy vrach P.S.Petrushko).

46-4-1-12/23

AUTHOR: Suchkov, B. A.

TITLE: Fluctuations of Sound Amplitude in a Turbulent Medium (Flyuktuatsii amplitudy zvuka v turbulentnoy srede.)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol.IV, Nr.1, pp.85-91. (USSR)

ABSTRACT: The paper describes results of experiments carried out in the autumn of 1954 on the acoustical testing-ground of Moscow University. The author measured fluctuations of sound amplitude in the atmosphere on propagation of the latter along the earth surface. A source and receiver of sound were placed in an open area. Sound, after passing through turbulent atmosphere (with wind and temperature gradients) was distorted, and a harmonic signal was converted into a randomly modulated one. The experiment consisted in measurement of this modulation under various conditions. Both sonic (3-7 kc/s) and ultrasonic (30-40 and 75 kc/s) frequencies were used. Electrodynamic loudspeakers were used as sources and microphones were used as receivers for the sonic range. For the ultrasonic frequencies Rochelle salt sources and receivers were

Card 1/3

Fluctuations of Sound Amplitude in a Turbulent Medium.

used. At sonic frequencies the source and the receiver were placed on 8 m high posts at distances from 20 to 80 m from one another. At ultrasonic frequencies the source and the receiver were placed at a height of 2 m from the ground surface, and the distance between them was varied from 0.5 to 16 m. The heights of the sources and receivers from the ground surface were chosen in such a way as to avoid reflections from the ground surface. The emitted sound signal of constant frequency and amplitude was converted into a fluctuating signal after passage through a turbulent atmosphere, and this fluctuating signal was recorded on a moving film. Measurements of vertical gradients of wind velocity and temperature were made simultaneously with the acoustical measurements. The author investigated the dependence of the root-mean-square magnitude of amplitude fluctuations on the distance between the source and the receiver. This dependence was found to be approximately linear. The author also compared the root-mean-square values of sound fluctuations measured directly with those calculated from the vertical gradients of wind velocity and temperature. Fig.1 shows a correlation graph

Card 2/3

SUCHKOV, B. A.: Master Phys-Math Sci (diss) -- "Fluctuation of sound amplitude when propagated in a turbulent atmosphere". Moscow, 1958. 13 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Physics Faculty), 150 copies (KL, No 7, 1959, 121)

SUCHKOV, B.A.

Method for calculating multicomponent rectification with electronic computers. Khim. i tekh. topl. i masel 10 no.2:42-45 F '65.
(MIRA 18:8)

1. Groznenskiy neftyanoy nauchno-issledovatel'skiy institut.

KORABLINOV, N.S.; SUCHKOV, B.M.; TRONOV, V.P.

Paraffin troubles and the efficiency of paraffin bits. Nefteprom. delo no.6:15-19 '63. (MIRA 16:10)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.
(Paraffins)

27698
S/120/61/000/003/008/041
E032/E314

24.6800

AUTHORS: Bayukov, Yu.D., Leksin, G.A. and Suchkov, D.A.

TITLE: Characteristics of Spark Counters Operated with Pulsed Supplies

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 3, pp. 66 - 68

TEXT: The authors have investigated the characteristics of various spark counters operated with pulsed supplies. The principle of the experiments is illustrated in Fig. 1. The plane-parallel electrodes forming the spark gap were placed in a glass container which was evacuated and then filled with air, nitrogen, carbon dioxide, helium, neon and argon at various pressures, p, respectively. The polished brass electrodes were 55 x 55 mm^2 in size. In addition, a further counter having disc electrodes, 30 mm in diameter and made from aluminium foil 7 μ thick, was tested in open air. The distance between the electrodes was varied between 2 and 6 mm and the

Characteristics of ....

high-voltage pulse was derived from a ТГИ-1 400/16 (TGI-1 400/16) thyratron controlled by a telescope consisting of two scintillation counters C_1 and C_2. The thyratron pulse was delayed by 0.5 μsec relative to the passage of the particle through the counter. All the experiments were carried out with cosmic-ray particles. In some cases, a constant clearing voltage V_o (0 to 2 kV) was applied to the counters. The limiting resistor R_2 could be varied between fractions of an ohm and 1.4 kΩ. The remaining parameters are indicated in Fig. 1. The spark discharges of the counter were recorded continuously, by ear, or by counting electrical pulses induced in the antenna of a scaling unit. Fig. 2 shows the results obtained for the efficiency η defined as the ratio of the recorded particles to the total number of particles passing through the counter ($R_2 = 0$, $V_o = 0$, $\tau = 0.5$ μsec).

Card 2/7

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E032/E314

Characteristics of ....

There are 4 figures, 3 tables and 1 non-Soviet reference.

SUBMITTED: July 4, 1960

Fig. 1:

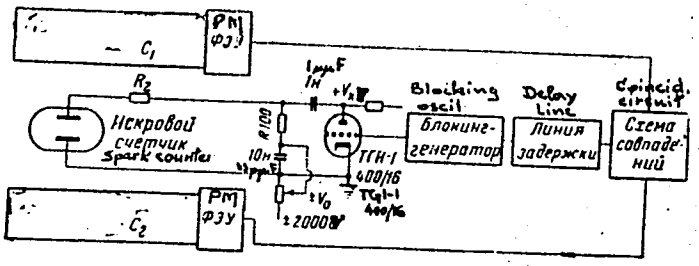


Рис. 1. Схема опытов

Card 4/7

BAYUKOV, Yu.D.; LEKSIN, G.A.; SUCHKOV, D.A.; SHALAMOV, Ya.Ya.; SHEBANOV, V.A.

Backward elastic scattering of 2.8 bev/c π^--mesons on neutrons.
Zhur.eksp.i teor.fiz. 41 no.1:52-55 Jl '61. (MIRA 14:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.
(Mesons--Scattering) (Neutrons)

The nature of elastic πN and ...

with increasing |t| and changes its sign at $|t| \approx 1$ (Bev/c)^2. Within the (large) error limits no contradiction is found between the data on pp and πN scattering. There are 2 figures. The English-language references are: Cocconi et al. Phys. Rev. Lett. 7, 450, 1961; R. E. Thomas, Phys. Rev. 120, 1015, 1960; Cork et al. Phys. Rev. 107, 859, 1957.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: May 8, 1962

Card 2/2

BAYUKOV, Yu.D.; LEKSIN, G.A.; SUCHKOV, D.A.; TELENKOV, V.V.

Some characteristics of spark chambers. Prib. i tekh. eksp. 8 no.1:26-28 Ja-F '63. (MIRA 16:5)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.
(Counting devices)

S/120/63/000/001/006/072
E032/E314

AUTHORS: Bayukov, Yu.D., Leksin, G.A., Suchkov, D.A. and Telenkov, V.V.

TITLE: Some characteristics of spark chambers

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 36 - 38

TEXT: The apparatus shown in Fig. 1 was used to investigate the efficiency of a single-layer spark chamber as a function of the length of the high-voltage pulse and its rise time. The apparatus and the method employed were described in detail in a previous paper (PTE, 1961, no. 3, 66). In the present work the distance between the electrodes was 6 mm and the chamber was filled with argon at 600 mm Hg; there was no clearing field. All the measurements were carried out with cosmic-ray particles. The length of the high-voltage pulse was taken to be equal to $R_p C_p$, which was varied between 4.2×10^{-8} and 1.8×10^{-6} sec. The form of the efficiency-versus-thyratron anode-voltage curves was found to be similar for different values of R_p and C_p. It was found that as the pulse length was increased the efficiency-versus-

anode-voltage curves shifted towards lower potentials. A study was also made of the effect of the chamber capacitance on the efficiency. It was found that the results were in satisfactory agreement with the formula:

$$\eta = 1 - \exp\left[-n\left(d - \int_0^{\tau} v(t)\,dt\right)\right] \qquad (1)$$

where η is the efficiency, n is the ionization density, d is the interelectrode distance, $v(t)$ is the velocity of electrons which depends on the field strength at a particular instant, i.e. on the form of the high-voltage pulse, and τ is the time taken by the potential to reach the critical value. Next, a study was made of the ability of the single chamber to record simultaneously a number of particles. This was carried out with a four-layer chamber filled with neon at atmospheric pressure, having an inter-electrode distance of 1 cm. The chamber was placed in a 310 meV π^--meson beam and operated when at least two particles passed through it (a detailed description of this apparatus will be given in a future paper). Numerical data on the efficiency of the

recording of two and three particles simultaneously are reproduced. It was found that argon-filled chambers had a lower efficiency for the simultaneous recording of particles than neon-filled chambers. Finally, the effect of impurities of spark chambers was investigated with the apparatus described in a previous paper. It was found that the presence of saturated water vapour reduced the potential for spurious pulses so that the plateau was practically absent. Small amounts of alcohol, acetone and dichloroethane could give rise to a reduction in efficiency at constant voltage, increase the spurious spark potential and suppress spurious pulses due to the propagation of photons through the chamber. Traces of carbon tetrachloride will reduce to zero the efficiency of recording of events occurring in a time interval of 1 μs prior to the application of the high-voltage pulses. There are 4 figures and 1 table.

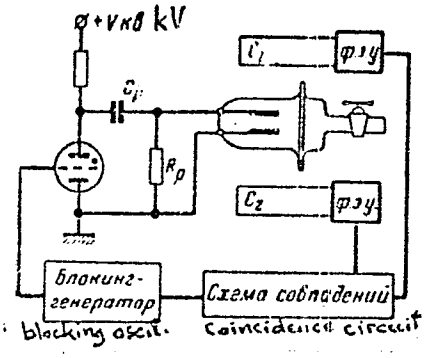
ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR (Institute of Theoretical and Experimental Physics of the AS USSR)

Some characteristics of ....

S/120/63/000/001/006/072
E032/E314

SUBMITTED: April 2, 1962

Fig. 1:



Card 4/4

AID Nr. 993-8 19 June

SUCHKOV, D. A.

A NEW SPARK COUNTER (USSR)

Bazhov, Yu. D., G. A. Leksin, D. A. Suchkov, and V. V. Telenkov.
Pribory i tekhnika eksperimenta, no. 2, Mar-Apr 1963, 45-47.
S/120/63/000/002/009/041

A new spark counter with a high voltage power supply for recording secondary π-mesons generated in the reaction $\pi^- + p \rightarrow \pi^+ + n$ is described. The counter, characterized by the small amount of matter in the path of the inoident particles, consists of 8 electrodes, placed into a cylindrical brass case, forming 4 spark gaps. The electrodes are made of aluminum foil 7 μ thick stretched between steel rings. The spark counter is evacuated to a pressure of 10^{-1} to 10^{-2} mm Hg and then filled with neon gas until atmospheric pressure is reached. The sparks are photographed in two mutually perpendicular directions. The recovery time for the generator which produces the high-voltage pulses is about 1 sec. [CS]

Card 1/1

GORITSKIY, V.S., inzh.; SAMOYLOV, I.A., inzh.; SUCHKOV, N.P., inzh.

Device for measuring the load volume on the pressing rollers of spinning machines. Tekst.prom. 20 no.5: 28-30 My '60. (MIRA 13:8)
(Spinning machinery)

SUCHKOV, G.A.

Introducing muskrats into Tashkent Province. Trudy Inst.zool.i paraz.AN Uz.SSR 5:233-236 '56. (MLRA 10:5)
(Tashkent Province--Muskrats)

9,4130
24,2600 (1043,1160,1482)

30117
S/194/61/000/007/033/079
D201/D305

AUTHORS: Stolyarova, Ye.L., Suchkov, G.M. and Nesterova, L.S.

TITLE: The effect of ambient temperature on the gain of photoelectric multipliers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 23, abstract 7 G150 (V sb. Pribory i metody analiza izluchenii, no. 2, M., Atomizdat, 1960, 137-143)

TEXT: Although the theory does not give any direct information on the existence of the dependence of the secondary emission coefficient on temperature, a series of experiments has proved that this dependence in fact exists. The results of measurements of the amplitude of output pulse from a photomultiplier are given in the temperature range -30 to +50°C; the photomultiplier cathodes were illuminated by intermittent glows of a neon tube. The curves show that type ФЭУ - С (FEU- S) and ФЭУ - IБС (FEU-IBS) photomultipliers

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The effect of ambient temperature...

exhibit maximum gain at temperatures between -5 and +15°C, the gain falling by 20-50% at -30 and +50°C. The photomultipliers type ФЭУ-29 (FEU-29) do not show a similar maximum and changes in their gain were ≤ 10% within -20 to +30°C. The above data show the possibility of designing temperature independent photomultipliers. 8 references. [Abstracter's note: Complete translation]

Card 2/2

S/796/62/000/003/015/019

AUTHORS: Stolyarova, Ye.L., Soldayeva, L.S., Suchkov, G.M.

TITLE: On the effect of the temperature of the medium on the readings of a scintillation counter.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Pribory i metody analiza izlucheniy. no.3. 1962, 143-155.

TEXT: On the effect of the temperature (T) of the medium on the output-signal amplitude (OSA) of a photoelectronic multiplier (PhM): 12 references are cited, of which 10 are Western, relative to the dual effect of the T of the medium on the readings of a scintillation counter, namely, the T effect on the OSA of the PhM and the T dependence of the light output of the scintillators. The seeming contradictions in the findings previously reported by Seliger-Ziegler, Ball, Boeschoten, Kinard, and by two of the present authors are analyzed; it is concluded that no real contradiction exists, but that within the T range of -50 to +50°C the character of the change in the amplification factor depends on certain design characteristics and the manufacturing process employed in the making of the dynodes. It is possible that in passing to lower T's the change in the photoelectron emission from the cathode with change in T will become so significant that it may predominate over any dynode effects. Systematic experiments over a broad T range are necessary to resolve this question. On the effect of the T of the medium on the intensity of the deactivation fluorescence

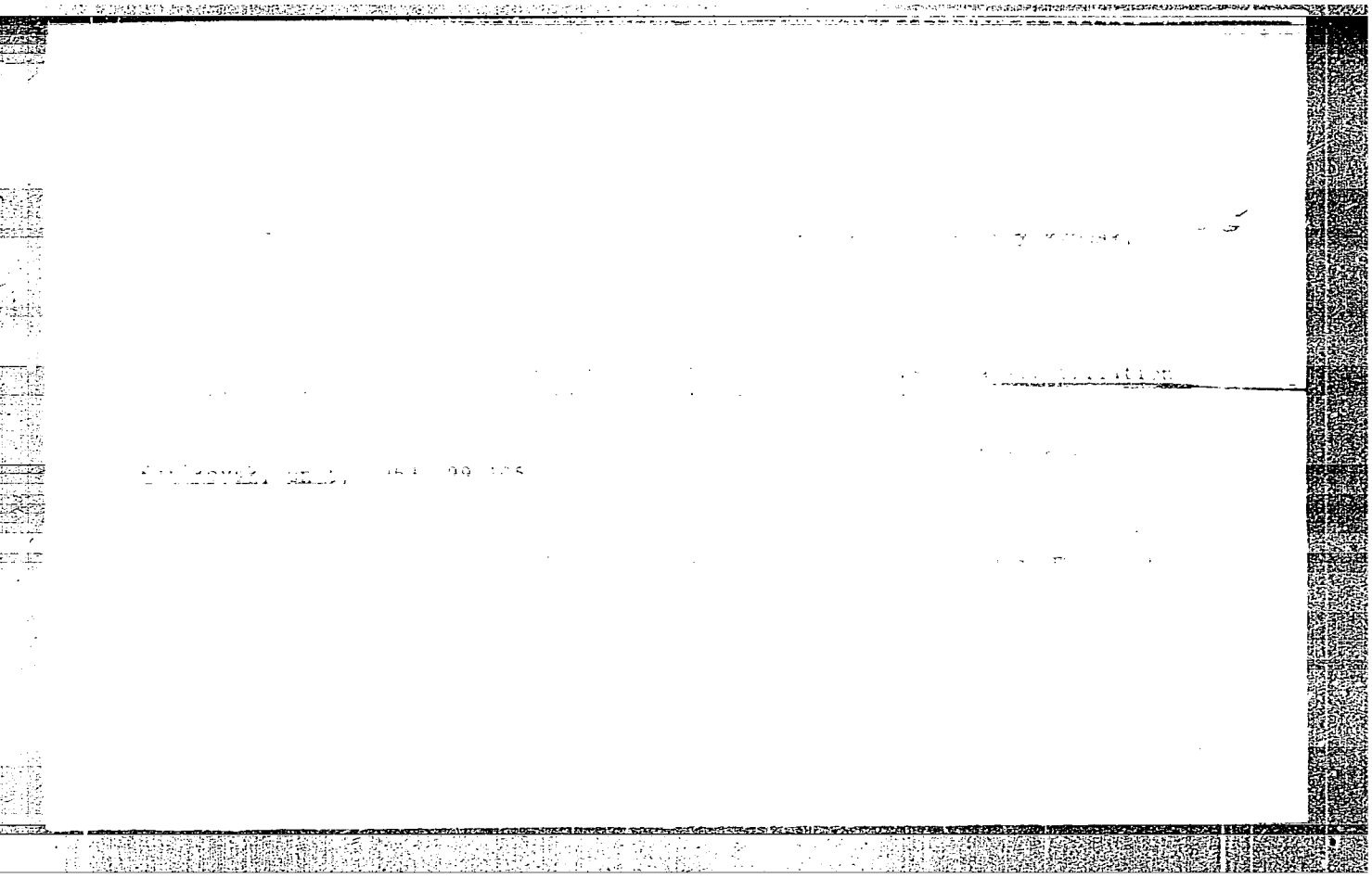
Card 1/4

of the scintillator crystals: A survey is made of the principal findings of 6 Western researchers on the intensity of the light flash that occurs in pure NaI crystals and in NaI(Tl) crystals under various types of ionizing radiation, and, more specifically, on the T effect which presumably can be attributed to the Tl activator therein. The primary practical value of such studies lies in the selection of optimal T's for obtaining the highest possible fluorescence intensity in scintillator crystals and also for the design of scintillators that are not T sensitive over a broad T range. The latter is the primary objective of this paper (desired T range: ± 50°C). Of especial interest is the investigation of the T effect on the slow components of the scintillation, since they may be utilized for the separate registration of neutron and γ-quantum impulses. The present investigation consists of two parts: (1) Investigation of the OSA of various Soviet PhM's with exposure of the photocathode to illumination by a standard light-pulse generator; (2) the same under exposure to the scintillation flashes of various scintillator crystals (SC) irradiated by a standard γ-radiation source. Comparison of (1) with (2) yielded: (a) An appraisal of the T effect on the Soviet SC's and PhM's investigated; (b) identification of a relatively T-insensitive combination of PhM and SC. Experimental setup and measurements: The general scheme of the test setup is described and illustrated. It comprises a thermostat, an automatic T control, a light-pulse generator, a cathode repeater with PhM equipped with divider, an amplifier ("Siren'"), a single-channel amplitude analyzer

("Kashtan"), and a scaling circuit with a stabilized HV source ("Floks"). In view of the volumetric and T-range inadequacy of existing ultrathermostats (UT), a modified G.M.Suchkov UT (first developed in 1957) was employed; the heat carrier is ethyl alcohol to avoid any change of state in the ±50°C range. A two-stage centrifugal pump ensures intense heat-carrier circulation. Other details are described and shown in a schematic cross-section. T balance between PhM and the medium is attained within 40 min. The light-pulse generator should create pulses of duration similar to that of the crystal scintillation. In the present tests the light-pulse source consisted of the fluorescence of the glass (cf. Fleyshman, D.G., et al., Pribory i tekhnika eksperimenta, no.6, 1957, 101) of an ordinary oscillograph tube under electron bombardment. Details of the light-pulse generator are described and shown in schematic cross-section. Experimental results: The experimental error was found to be 8%. The stability of the PhM was verified; the output-pulse peak shift was 3% in 10 hrs. The total change in amplitude within ±50°C is 3-18%; a ±10° deviation from +20° entails an amplitude range of 2-7%, i.e., within the accuracy of the experiment. Curves are plotted for two types of Soviet PhM's, showing that under illumination of the photocathode by a standard light-pulse generator the signal-amplitude (SA) T dependence is a function of the material and design of the PhM. In PhM's with (Cu, Al, Mg) alloy dynodes of boxlike structure the amplitude curves have a fairly distinct maximum in the -10 to +20° range, an effect that is attributed to a change in the initial velocities of the electrons

at their exit from the emitters, which leads to an impairment in focusing and a loss of part of the electrons. In PhM's with Sb-Ce dynodes of trough-shaped structure, an increase in SA with T above room T is observed; this is attributed to Ce evolution into the PhM space. In PhM's with (CuAlMg)-alloy dynodes and a shutter-like structure, no T dependence of the SA was found. The effect of the T of the medium on the OSA of a scintillation counter consisting of T-stable FEU-11B PhM in combination with various inorganic scintillator crystals (NaI(Tl), CsI(Tl), and KI(Tl)) and organic crystals (stilbene, naphthalene, and tolane) is investigated; the tests were performed with 5-μcurie Cs^{137} standard γ-sources. The combination of an FEU-11B PhM with a KI(Tl) crystal is recommended as a scintillation counter for the -50 to +50°C range, since it is T-insensitive to within 10%, an error which is admissible in field-test conditions. Within the range from -10 to +50°C a combination consisting of an FEU-11B or FEU-13 PhM and NaI(Tl) or CsI(Tl) scintillators is practically T-insensitive. There are 7 figures and 14 references (2 Russian-language Soviet and 12 English-language).

ASSOCIATION: None given.



ACCESSION NR: AR4046134

KHACHOYAN, G.; SUCHKOV, I.

Organizational work of the city committee. Voen.znan. 36 no.5:21-22 My '60. (MIRA 13:4)

1. Zamestitel' predsedatelya Tashkentskogo oblastnogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for Khachoyan). 2. Starshiy instruktor oblastnogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (g.Tashkent) (for Suchkov).
(Tashkent Province--Military education)

SUCHKOV, I.A.

137-58-5-8999

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 35 (USSR)

AUTHORS: Chernov, N.N., Suchkov, I.A.

TITLE: On the Correlation Between the Distribution of Gases in the Hearth of a Blast Furnace and the Composition of the Shaft Gases (O vzaimosvyazi gazoraspredeleniya v gorne domennoy pechi s sostavom gaza v shakhte)

PERIODICAL: Sb. tr. Kuznetskogo mezhobl. pravl. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 1, pp 5-18

ABSTRACT: A comparison is made between curves showing the gas distribution along two mutually perpendicular diameters of the shaft as well as along the radius of the hearth. The static gas pressure was measured along the axis of the tuyeres from their elbows to the center of the furnace. Investigations have shown that, in the process of both steady and forced operation, the CO_2 contents the center and on the periphery of the furnace amount to approximately 4% and 7%, respectively; the maximum CO_2 content is approximately 15%. O_2 and CO_2 found along the axis of a tuyere disappear completely at a distance of 0.75 m and 1.5 m, respectively, from the end of the tuyere (ET), while the content of the

Card 1/2

137-58-5-8999

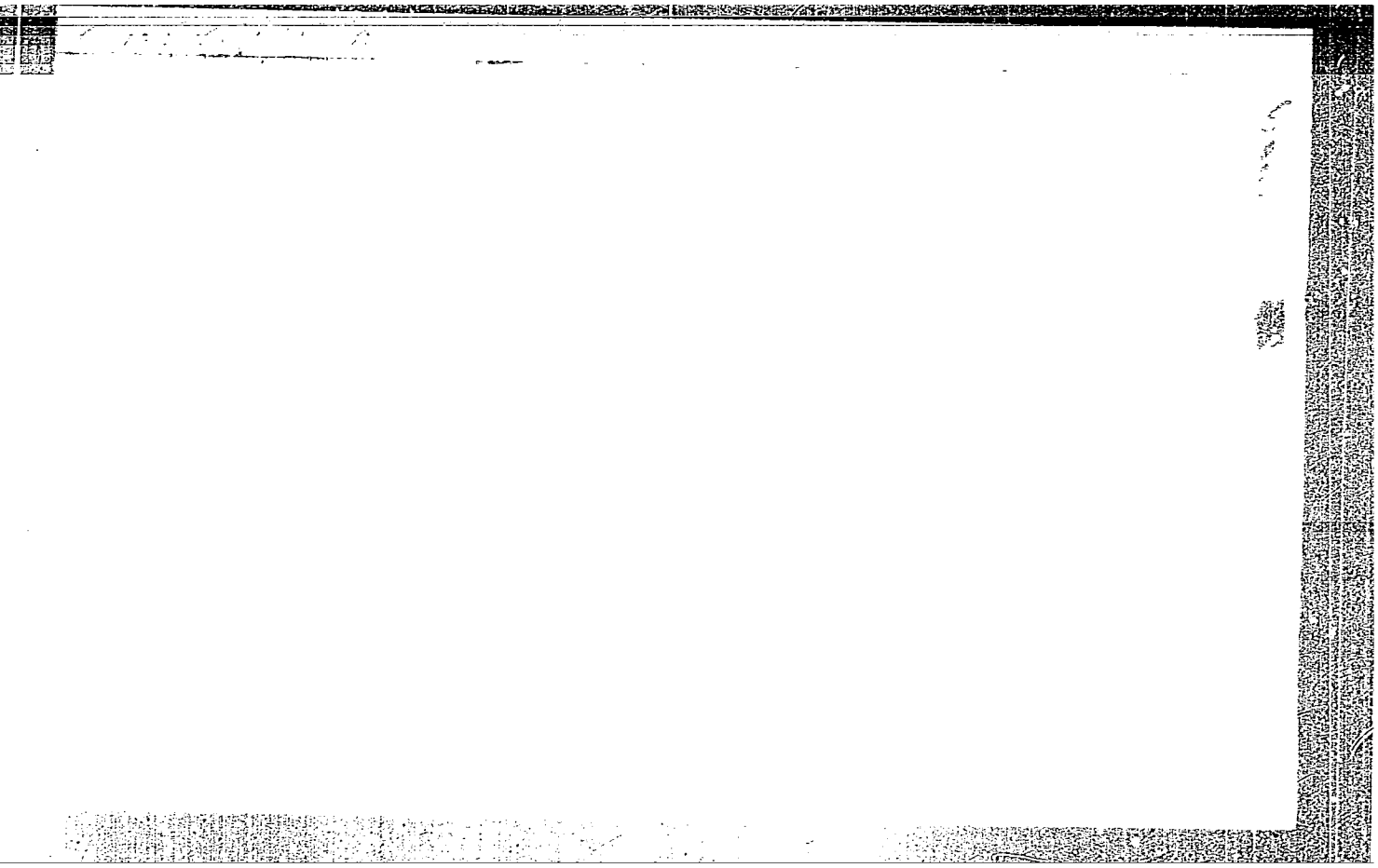
On the Correlation Between (cont.)

CO in the center of the furnace does not exceed 50%. The existence of a region of low CO_2 content in the center of the shaft, or the appearance of several maxima on the CO_2 curve, is representative of an unstable peripheral or central operation of the furnace as well as of a reduction of CO content up to 45% in the center of the hearth; the CO_2 or O_2 disappear in the vicinity of the axis of the hearth while the apparent magnitude of the oxidizing zone becomes greater. The distances (measured from the opening of the tuyere) at which O_2 and CO_2 disappear are identical in the case of a furnace with clogged central area; at the same time the CO content in that area increases up to 90%, an indication that the furnace has cooled off. The higher the temperature of the furnace, the smaller is the zone of CO_2 and vice versa. In this connection the authors recommend that the dimensions of the combustion zone be determined from the points at which CO_2 and O_2 disappear and that the zone of circulation be determined by means of probing. Measurements of static pressure have revealed that the hearth possesses good permeability, and that the magnitude of the pressure drop between a circular air duct and ET is greater than the pressure drop between the ET and the axis of the hearth.

G.S.

1. Blast furnaces--Operation 2. Gases--Determination 3. Waste gas--Analysis

Card 2/2



APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653720011-5"

ZHEREBIN, B.N., inzhener; MINKIN, V.M., inzhener; NIKULINSKIY, I.D., inzhener; OBSHAROV, V.M., inzhener; SUCHKOV, I.A., inzhener; OSTROUKHOV, M.Ya., kandidat tekhnicheskikh nauk.

Effect of certain factors on the extent of the oxidation zone. Stal' 16 no.5:391-396 My '56. (MLRA 9:8)

1. Kuznetskiy metallurgicheskiy kombinat i Institut metallurgii AN SSSR.

(Blast furnaces)

PA-3055

AUTHOR SHTYREW D.A. Deputy Director, Blast-Furnace Plant, Kuznetsk Metallurgical Combinate
SUCHKOV I.A., Supervisor of the Technological Group, Kuznetsk Metallurgical Combinate
MINKIN V.A., Director, Blast-Furnace Laboratory, Kuznetsk Metallurgical Combinate

TITLE The Kuznetsk Blast-Furnace Workers. (Kuznetskiye domenshchiki.- Russian)

PERIODICAL Metallurg 1957, Vol 2, Nr 4, pp 9 - 12 (USSR)
Received: 5/1957 Reviewed: 7/1957

ABSTRACT The first blast-furnace iron was produced about two years after construction at the Kuznetsk Combinate had started. Four blast furnaces were constructed, with almost 4,000 m³ work space. Until 1940, the workers of the combinate solved different questions of working methods. The workers learned to regulate the working of the furnace from above, and, inter alia, successful attempts were made to obtain a stability of the blast and of the heat economics.
It was learnt to correct the melting stock after dust had been completely eliminated usw. A uniform operation of the furnace was obtained by careful determination and fixation of the melting stock at the ore depot, in the ore bunkers, and directly during the process of charging. During this process, the constancy

CARD 1/ 4

education. Workers from Kuznetsk were frequently sent to other plants as instructors. Many of them had started in the combinate as construction and auxiliary workers and then were promoted to responsible specialized posts. For 1957, the personnel of the Combinate plans further measures: further improvement of the blast-furnace operation in connexion with changed ore quality, shortening of furnace lay-offs during repair work, automatic regulation of the gas flow in the furnace by using a revolving distributor corresponding to the heat feeders of the throat at several points. Automatization will permit to change, according to need, the system of charging, the charging platform, and the amount of the coke charge at a change of the gas flow in the furnace shaft. It is intended to take into account the gas drop on different horizons in the furnace, and to regulate the furnace charge in accordance to the static gas drop; this regulation is supposed to be automatic. The disadvantages must not be forgotten: not all resources have been used, not all furnaces are being operated uniformly and without

interruptions, the discipline of working methods is often violated, and not all has been done so far in order decrease the amount of waste.
(7 reproductions, among them 6 pictures of persons.)

ASSOCIATION: Kuznetsk Metallurgical Combinate, Stalinsk.
PRESENTED BY: -
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 4/4

AUTHOR: Chernov, N.N., Candidate of Technical Sciences, Domitskiy, I.F., Engineer and Suchkov, I.A. 133-5-2/27

TITLE: Rational positioning of the mixture valve on a blast furnace plant. (Ratsional'noye raspolozheniye smesitel'nogo klapana domennoy pechi).

PERIODICAL: "Stal'" (Steel) No. 5, pp. 389-391 (U.S.S.R.) ~~1957~~ 1957

ABSTRACT: An investigation of the degree of mixing cold and hot blast at different positioning of the mixing valve was investigated on Nos. 1 and 2 blast furnaces of the Kuznetsk Works. On No. 1 furnace the valve was placed between the furnace and the first stove (Fig. 1 A) and on No. 2 furnace after the last stove (Fig. 1 B). Blast temperature was measured in 4 diametrically situated blow pipes (Fig. 2). It was found that by placing the mixing valve between the furnace and the first stove (Fig. 1 A) the temperature variation of the refractory lining of the hot blast main was decreased and a satisfactory mixing of hot and cold blast was obtained. The temperature of the blast in the blow pipes is lower than in the main, in summer by 30-40 °C and in winter by 50-80 °C. The temperature drop along the pipe was 18-25 C/m. Insulation of blow pipes will increase the blast temperature by about 20 °C. There are 6 figures and 3 references, 2 of which are Slavic.

Card 1/2

Suchkov, I.A.

AUTHORS: Suchkov, I.A. and Burtsev, V.V. (Engineers)

TITLE: An Automatic Control of Gas Distribution in the Blast Furnace Stack (Avtomaticheskiy kontrol' gazoraspredeleniya v shakhte domennoy pechi)

PERIODICAL: Stal', 1958, Nr 2, pp.110-113 (USSR)

ABSTRACT: The development of the apparatus for the control of the distribution of the gas stream along two perpendicular diameters in the furnace throat below the stock level carried out by KIP on the Kuznetsk Metallurgical Combine is described. Initially (1953) an automatic sampling and analysis of gas was carried out by gas sampling tubes which were periodically inserted with an electric winch into the furnace throat (Fig.1). This method was superceded in 1954 by building into the furnace a permanent water cooled probe with sampling tubes (Fig.2). Both methods were found to be impracticable due to blocking of the sampling tubes by dust and erroneous operation of automatic gas analyzers. In 1956 a scheme of controlling gas distribution along two throat diameters was based on temperature measurements. Four water cooled probes containing a thermocouple traverse the furnace throat from the wall to the centre giving a continuous temperature record across two perpendicular dia-

Card 1/2

133-2-3/17

An Automatic Control of Gas Distribution in the Blast Furnace Track.

meters. The scheme is described in some detail (Fig.3). Electrical circuit is shown in Fig.4 and a sample of the record obtained in Fig.5. The probes are moved into and out of the furnace with electrical winches. Time of measuring traverse - 7 min. When the measuring is completed thermocouples are withdrawn into the furnace lining. The scheme operates either fully or semiautomatically, its operation was found to be satisfactory and it is recommended for use in other works. The following participated in the design of the apparatus: Dolganeva and Khlebnikova. There are 5 figures and 5 references, all Russian.

ASSOCIATION: Kuznetsk/iy Metallurgical Combine (Kuznetskiy Metallurgicheskiy Kombinat).

AVAILABLE: Library of Congress.

Card 2/2

ZHEREBIN, B.N.; DEMBOVETSKIY, V.P.; MINKIN, V.M.; NIKULINSKIY, I.D.; Prinimali uchastiye: OBSHAROV, V.M., inzh.; RAYEV, Yu.O., inzh.; ZHIGULEV, P.T., inzh.; SUCHKOV, I.A., inzh.; BEREZKIN, B.S., inzh.; NEKRASOV, V.M., inzh.; ZHUKOVICH, A.I., inzh.

Use of coke-oven gas in blast furnaces. Stal' 21 no.8:673-679 Ag '61. (MIRA 14:9)

1. Kuznetskiy metallurgicheskiy kombinat i Sibirskiy metallurgicheskiy institut.
(Blast furnaces—Equipment and supplies)

S/081/62/000/022/004/088
B177/B186

AUTHORS: Godin, Yu. G., Yevstyukhin, A. I., Yemel'yanov, V. S., Rusakov, A. A., Suchkov, I. I.

TITLE: The solubility of metals in carbon

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 42, abstract 22B277 (In collection: Metallurgiya i metalloved. chist. metallov. no. 3, Moscow, Gosatomizdat, 1961, 284-289)

TEXT: A method for determining the existence of solubility of high of refractory metals in C is proposed, based on quenching alloys with a high C content from heterogeneous regions. By separating the crystals first evolving from the main mass of the specimen and examining them, both the occurrence and the value of solubility can be established. This method is employed in studying the solubility of Nb and Zr in C. The specimens are prepared by melting in an arc furnace with a graphite electrode and a water-cooled copper crucible. The graphite crystals are isolated by pickling the carbide phase in a heated mixture of HF and HNO_3. X-ray and spectral analyses of the residue after pickling failed to

Card 1/2

S/081/62/000/022/004/088
B177/B186

The solubility of metals in ...

reveal the presence of Nb and Zr in the graphite. [Abstracter's note: Complete translation.]

Card 2/2

ACCESSION NR: AT4005966 S/2755/63/000/004/0149/0159

AUTHOR: Yevstyukhin, A. I.; Godin, Yu. G.; Kokhtev, S. A.; Suchkov, I. I.

TITLE: Study of alloys of the rhenium carbon system

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 149-159

TOPIC TAGS: rhenium carbon alloy, rhenium carbon alloy composition, rhenium carbon alloy property, alloy melting point, alloy microstructure, rhenium carbon phase diagram, rhenium carbon system

ABSTRACT: The interaction between Re and C and some evidence for the development of stable rhenium carbide are discussed. Spectrally pure carbon rods 5 mm in diameter and powdered Re containing 99.95% Re, 0.007% Al, 0.004% Fe, 0.008% K, 0.007% Ca, < 0.001% Cu, < 0.0005% Na, < 0.0001% Ni and 0.005% Mo were used as basic components for making alloys by two methods. When the C content was > 50 at. %, the mixed Re and carbon powders were briquetted under a pressure of 35-45 metric tons, the moldings were clinkered in vacuum resistance furnaces at 1800 - 2000 C and were remelted in arc furnaces with an argon atmosphere. When the amount of C was low, the powdered Re with graphite pieces was clinkered without pressure in arc furnaces with an argon atmosphere. The melting point of the

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ACCESSION NR: AT4005966

samples was determined with an OP-48 optical pyrometer. Heating at 2000C in a vacuum of 1.10^{-4} mm showed an absorption value of 50 -60C. Further tests included annealing at 1900 - 2200C and oil hardening in a vacuum of 10^{-4}mm. Standard microsections were prepared. The structure of the alloys was developed by etching, the powdered alloy was examined by x-ray, and the macro- and micro-hardness were determined. X-ray analysis of the graphite separated from cast alloys was used to determine the presence or absence of Re solubility in C. Increasing the amount of C lowers the melting point of Re-C alloys. Those with 0.35 wt. % C have a common horizontal solidus line at 2500C. Microphotography of these solid alloys indicates that their structure varies with the C content. Alloys with 1.3% C have a eutectic structure. A lowering of the quenching temperature to 1900C produces disappearance of the graphite needles and their substitution by white formations. Visual comparison of the roentgenograms of pure Re, C, and Re-C alloys shows the presence of a new Σ phase. X-ray examination of the alloys showed the absence of solubility of Re in C. The hardness of cast and quenched alloys increases with the C content up to 0.5 weight %, after which it decreases. These effects of the C concentration in alloys are explained and the properties of the Re-C system are tabulated. On the basis of these findings, the authors constructed the partial phase diagram shown in Fig. 1 of the Enclosure. This shows the presence of rhenium carbide, confirmed by the lines of a new ζ phase in

Card 2/4

ACCESSION NR: AT4005966

roentgenograms. Rhenium carbide is probably stable at 1900 - 2200C. Increasing the C in alloys increases the quantity of bound carbon, also indicating a chemical bond. In microstructures, the Re-C appears in the form of a white edge of graphite needles, which may explain the extreme hardness of alloys with 35.7-37.1 at. % C. Orig. art. has: 13 figures and 3 tables.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering Physics Institute)

SUBMITTED: 00 DATE ACQ: 17Jan64 ENCL: 01

SUB CODE: MM NO REF SOV: 000 OTHER: 005

Card 3/4

A CESSION NR: AT4005966

ENCLOSURE: 01

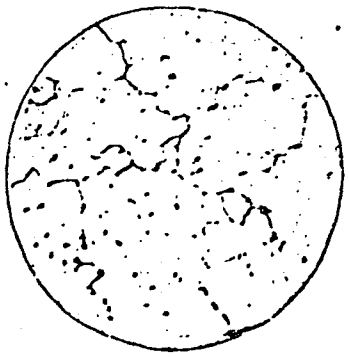

Fig. 1 Microstructure of a Cast Alloy of Re + 0.15% C (X200)

Card 4/4

S/755/61/000/003/026/027

AUTHORS: Godin, Yu. G., Yevstyukhin, A. I., Yemel'yanov, V. S., Rusakov, A. A., Suchkov, I. I.

TITLE: On the solubility of metals in carbon.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov. no.3. 1961, 284-289.

TEXT: The paper describes an attempt to determine the solubility of Zr and Nb in C, a task rendered difficult by the elevated m.p. of C ($>4,000^{\circ}C$) and its vapor pressure which, at the m.p., exceeds 100 at. A two-stage approach was chosen: (1) Determination of the possible existence of solubility; (2) determination of the limiting solubility, if any. The present paper describes the first-stage study for Zr and Nb. It was postulated that if one component is soluble in another, the amount of the dissolved component in an alloy quenched in the heterogeneous region of the phase diagram from the solidus T should correspond to the limiting content within the crystals of the dissolved component in accordance with the section rule. Separation of the crystals from the parent mass of the specimen would then permit analytical proof of the presence or absence of solubility and a determination of its magnitude, if any. Serious difficulties were encountered in the arc-melting preparation of Zr-C and Nb-C alloys because of the high volatility of C (beyond certain concentrations) at high T. Most of the alloys consisted of primary grains of "free" graphite and a eutectic consisting of a mixture of graphite and carbides of Zr or Nb, respectively. The pre-

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On the solubility of metals in carbon. S/755/61/000/003/026/027

paration of the C-Zr and C-Nb alloys in a MIFI-9-3 arc furnace in an atmosphere of Ar is described. Initial materials: Spectrally pure C sticks, iodide-Zr rods 99.8% pure, and lumps of Nb 99.3% pure. The charge was remelted several times to achieve uniform distribution. Separation of the crystals was performed either by gravity separation of the C from the carbides or by chemical dissolution of the carbides. Gravity separation was done on 270-mesh pulverized material. The liquid used was "bromophor" (Abstracter's note: Tetrabromoethane?) having a density of 2.8-2.9 g/cm^3. The graphite-carbide separation by centrifuging was not complete, which is attributed to a possibly inadequate comminution of the powder. In the chemical method, the 270-mesh powder was dissolved at high T in a Pt cup with a mix of HF and HNO_3. The carbides dissolved, the graphite did not. X-ray diffraction of the graphite was correlated with a like analysis of spectrally pure C. In pure graphite the 004 line alone is split, whereas in graphite separated from ZrC the 006 line is also split. A comparison of the interplane distance from the separated graphite with the values calculated per Nelson, et al., (Phys. Soc., Proc., v.57, 1945, 477) indicates so close a coincidence that the nonsolubility of Nb and Zr in graphite is regarded as established. A spectral analysis confirms that if there is any solubility at all, it must be less than 0.01%. There are 6 figures, 1 table, and 2 references (1 Russian-language Soviet and the above-cited English paper).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 2/2

TROSKIN, A.V.; LYUBIMOV, M.V., master; SUCHKOV, I.M., master.

Increasing the speed of automatic looms with Jacquard attachments.
Tekst.prom. 16 no.3:41-42 Mr '56. (MLRA 9:6)

1.Nachal'nik tkatskogo tsekha fabriki imeni Negina (for Troskin).
(Looms) (Jacquard weaving)

LEVI, M.I.; BASOVA, N.N.; SUCHKOV, J.G.

Optimal conditions for complement fixation reactions in some infections. Acta virol.Engl.Ed.Praha 4 no.6:348-355 N'60.

1. Caucasian and Transcaucasian Scientific Research Institute of Plague Control, Stavropol, U.S.S.R.
(COMPLEMENT)

TSVETKOV, E., inzh.; DUBROVIN, M., inzh.; SUCHKOV, L., inzh.

Effectiveness of delivering adequate coal supplies for a year's consumption. Rech. transp. 23 no.1:7-8 Ja '64. (MIRA 18:11)

KHONIN, V.A.; SUCHKOV, N.A.; BESJONOV, A.A.; Prinimala uchastiye
TAVILDAROVA, T.F., doktor sel'khoz. nauk, prof.;
NAZARENKO, L.I., red.; NAGIBIN, P.A., tekhn. red.

[State herdbook of Red Steppe cattle] Gosudarstvennaia plemennaia kniga krupnogo rogatogo skota krasnoi stepnoi porody. Alma-Ata, Kazsel'khozgiz. Vol.14 [Karaganda and North Kazakhstan Provinces in the Kazakh S.S.R.] Karagandinskaia i Severo-Kazakhstanskaia oblasti Kazakhskoi SSR. 1962. 410 p.
(MIRA 17:2)

1. Kazakh S.S.R. Ministerstvo sel'skogo khozyaystva.

SUCHKOV,N8F8 600

1. ~~USCHKOV,~~ N. F.

2. USSR (600)

"Jigging Machines at the Salair Plant" Tsvet, Met. 14, No 9, September 1939.

9. [redacted] Report U-1502, 4 Oct 1951.

SOKOLOV, Mikhail Ivanovich; KOSTINSKIY, D.N., red.

[There where the Irrawaddy flows] Tam, gde techet Iravadi. Moskva, Mysl', 1965. 101 p. (MIRA 18:6)

SUCHKOV, I.N.

the Mama mica-bearing region. Sov.geol. 4 no.2:159-163 F '61.

1. [illegible]
(Mama Valley--Porphyry)
(Mama Valley--Granite)

SUCHKOV, P. V.

Suchkov, P. V.	"Cotton Growing" textbook	Ministry of Agriculture Uzbek SSR

SUCHKOV, S. N.

7656. SUCHKOV, S. N. -- Mashinovedeniye. programma, metod. ukazaniya I kontrol'nyye zadaniya dlya uchashchikhsya zaochnykh tekhnikumov. utv. 9/vii 1954 G. M., "Sov. Nauka", 1955. 70 s. 20 sm. (M-vo vyssh. obrazovaniya. upr. sred. spets. ucheb. zavedeniy). 30.000 ekz. 95 K. -- na obl. avt. ne ukazan. -- (55-3427)

621 (071.4)

SO: Knizhnaya Letopsis', Vol. 7, 1955

SUCHKOV, Sergey Nikolayevich; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Practical methods of technical instruction for electric power enterprises and electric power station construction] Praktika tekhnicheskogo obucheniia na energopredpriiatiiakh i stroitel'stvakh elektrostantsii. Moskva, Gos.energ.izd-vo, 1957. 151 p. (MLRA 10:8)

(Electric engineering--Study and teaching)

RYZHOV, S.N.; SUCHKOV, S.P.

Single system for the agricultural division of the irrigable lends of Central Asia. Trudy SAGU no.25:3-6 '51. (MLRA 9:5)
(Soviet Central Asia--Soils)

SUCHKOV, S. P.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr. 1954)

Name	Title of Work	Nominated by
Suchkov, S. P.	"Cotton Growing" Textbook	Ministry of Agriculture Uzbek SSR

SO: W-30604, 7 July 1954

USSR/Soil Science - Soil Genesis and Geography. J.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15241

Author : S.N. Ryzhov, S.P. Suchkov
Inst : -
Title : The Principles of Districting the Irrigated Lands of Central Asia According to Agricultural Soils. (Printsipy agropochvennogo rayonirovaniya oroshayemykh zemel' Sredney Azii).

Orig Pub : V sb.: Dokl. VI Mezhdunar. kongressu pochvovedov. 6-ya komis. Melior. pochv. M., 1956, 127-134 (in Russian) 135-141 (In French).

Abstract : The irrigated territories of Central Asia are divided by the authors into the desert zone having takyr-like and saline soils and into the foot hill zone of the semi-bad lands with their serozems. The soils in the first zone are subject ot secondary salification, to prevent which a drainage device becomes necessary;

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J.

USSR/Soil Science - Soil Genesis and Geography.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15241

the application of nitrogenous and phosphate fertilizers is also recommended. The waste land soil zone is divided into the north, central and south districts. The serozem foot hill zone is split into three districts: the dark serozems at heights of 1000-1100 meters, the typical serozems at 400-700 M., and the light serozems at 300-400 M. The soils of the zone are noted for their high fertility, favorable physical properties and are less subject to salinity. The agricultural soil regions are recommended for classification according to the depth of ground water, and the subregions according to the degree of soil tillability. The subregions are divided into soil groups according to their mechanical composition, degree of salinity and depth of drainage layers. The agricultural soil group corresponds as a rule to the soil varieties.

Card 2/2

7

J.

USSR/Soil Science - Genesis and Geography of Soils.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67870

Author : Suchkov, S.P.
Inst : -
Title : Agricultural Soil Regionalization and the Land Fund of the Murgab Delta.

Orig Pub : Sb.: Pochvy del'ty Turgabai vopr. sgrotekhn. khlopchatnika, Tashkent, 1957, 93-105.

Abstract : The ancient Murgab Delta belongs to the southern desert area and has a takyr type of soil formation with unstable surface ground mineral water and little drainage. On the basis of predominance of one soil type the following agricultural soil regions can be distinguished within the area: 1) takyr soils and takyr-like "dry" soils underlain by deep ground waters; these cover an area of 153.8 thousand hectares of which 60.5 thousand hectares are irrigated

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- 4 -

and 93.3 thousand are free -- representing the first land fund which will be irrigated from the Kara-Kum Canal. 2) meadow-takyr and meadow-desert slightly moist soils with mineral ground waters relatively near to the surface; the total area occupied by these soils is 68.6 thousand hectares of which 50.8 thousand hectares are irrigated -- this 17.8 thousand hectares are ususued. 3) meadow (solonchak) moderately moist soils with slightly mineralized ground waters near the surface; these comprise 52.1 thousand hectares, of which 39.3 thousand hectares are irrigated and 12.8 thousand hectares are unused. 4) and 5) meadow-swamp and swampy soils, extremely wet with mineralized ground waters close to the surface; these cover an area of 1.2 thousand hectares of which 0.6 thousand hectares are used for irrigated crops. In addition there are grey soils in the upper part of Iolotanskiy Rayon (9.9 thousand hectares of which 3.3 thousand hectares are

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67870

"desert" grey soils, 6 thousand hectares grey meadow soils, and 0.5 thousand hectares meadow light soils). 6 thousand hectares are irrigated. In this fashion the zone of possible irrigation comprises 379,300 hectares, of which 157,200 hectares are used, 112,600 hectares were formerly irrigated, 25,800 hectares are virgin, and 83,700 are not suitable for irrigation. A diagram of agricultural soil regions is given. -- L.N. Kudryashova

Card 3/3

AKULOV, V.V., kand.geogr.nauk; BABUSHKIN, L.N., doktor geogr.nauk; ORESHINA, L.M.; SKVORTSOV, Yu.A., doktor geol.-mineral.nauk; PETROV, N.P., kand.geol.-mineral.nauk; CHERNEVSKIY, N.N.; KRYLOV, M.M., doktor geol.-mineral.nauk; KHASANOV, A.S.; BEDER, B.A., kand.geol.-mineral.nauk; KIMBERG, N.V., kand. sel'skokhoz.nauk; SUCHKOV, S.P.; GLAGOLEVA, A.F.; PERVUSHINA-GROSHEVA, A.N.; VERNIK, R.S., kand.biol.nauk; MOMOTOV, I.F.; GRANITOV, I.I., kand.biol.nauk; SALIKHBAYEV, Kh.S., kand. biolog.nauk; STEPANOVA, N.A., kand.biolog.nauk; YAKHONTOV, V.V.; DAVLETSHINA, A.G., kand.biolog.nauk; MURATBEKOV, Ya.M., kand. biolog.nauk [deceased]; KUKLINA, T.Ye.; KORZHENEVSKIY, N.L., red. [deceased]; GORBUNOV, B.V., kand.geologo-mineral.nauk, red.; DONSKOY, P.V., red.; YAKOVENKO, Ye.P., red.izd-va; GOR'KOVAYA, Z.P., tekhn.red.

[Materials on the productive forces of Uzbekistan] Materialy po proizvoditel'nym silam Uzbekistana. Tashkent. No.10. [Natural conditions and resources of the lower reaches of Amu-Darya; Kara-Kalpak A.S.S.R. and Khorezm Province of the Uzbek S.S.R.] Prirodnye usloviia i resursy nizov'ev Amu-Dar'i; Kara-Kalpakskaia ASSR i Khorezmskaia oblast' UzSSR. 1959. 351 p. (MIRA 13:5)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Sovet po izucheniyu proizvoditel'nykh sil. 2. Chleny-korrespondenty AN UzSSR (for Yakhontov, Korzhenevskiy).
(Amu-Darya Valley--Physical geography)

KIMBERG, N.V.; KOCHUBEY, M.I.; SUCHKOV, S.P.

Classification of the soils of the agricultural regions of Uzbekistan.
Pochvovedenie no.6:78-84 Je '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khlopkovodstva.
(Uzbekistan--Soils--Classification)

SUCHKOV, S.P.; ZIMINA, N.I., kand. sel'khoz. nauk; LAZAREV, S.F., kand. sel'khoz. nauk; KRUGLOVA, Ye.K., kand. sel'khoz. nauk; BESEDIN, P.N., kand. sel'khoz. nauk, red.; KENZER, A.P., red.; SOROKINA, Z.I., tekhn. red.

[Soils of the Golodnaya Steppe; their agronomic characteristics] Pochvy Golodnoi Stepi; ikh agronomicheskaia kharakteristika. [By] S.P.Suchkov i dr. Tashkent, Redaktsionno-izdatel'skii otdel UzASKhN. 1961. 173 p. (MIRA 16:1)
(Golodnaya Steppe—Soils)

SUCHKOV, S.P.

Productive capacity of soils irrigated for periods of various lengths in Uzbekistan. Pochvovedenie no.10:1-9 O '62.
(MIRA 15:11)

1. Respublikanskiy proyektnyy institut po zemleustroystvu Uzgiprozem.

(Uzbekistan--Irrigation farming)
(Uzbekistan--Soil fertility)

KOSHKOV, S.P.

Establishing farm soil groups of irrigated areas in Uzbekistan.
Pochvovedenie no.1:30-35 Ja '65. (MIRA 18:7)

USSR/Chemistry - Titanium Organic Compounds

Jul 52

"The Physicochemical Study of the Reaction of Titanium Tetrachloride With Isoamyl Acetate," O. A. Osipov, V. Suchkov, Rostov-on-Don State U

"Zhur Obshch Khim" Vol 22, No 7, pp 1132-1136

A study was made of the viscosity, density, and elec cond of the system titanium tetrachloride-isoamyl-acetate, at temps of 60° and 70°. A compd was formed in the system with the compn, $TiCl_4 \cdot CH_3COOC_5H_1$, which was almost undissocd in the liquid phase. The relative heat coeffs of the viscosity and elec cond was computed.

229T34

SUCHKOV, V.

229T34

(3)

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

Physico-chemical study on the interaction of titanium tetrachloride with isoamyl acetate. O. A. Osipov and V. Suchkov (Rostov-on-Don State Univ.). *J. Gen. Chem. U.S.S.R.* 22, 1177–80(1952)(Engl. translation).—See *C.A.* 47, 8010a.
H. L. H.

NF
1-28-54

SUCHKOV, V.

Centralized petroleum-product transportation within a province.
Avt.transp. 41 no.2:15 F '63. (MIRA 16:2)

1. Starshiy inzhener otdela perevozok Volgogradskogo avtoupravleniya.
(Volgograd Province--Petroleum products--Transportation)

Suchkov, V. A.

Nasonkin, I. I., Zaytseva, A. I. and Suchkov, V. A. "Asexual syphilis," Sb. nauch. trudov Gos'k. in-ta dermatologii i venerologii i Kafedry kozhno-venerich. bol'nits GOLM im. Mirova, Issue 12, 1948, p. 189-95

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

Welding Transformer with Continuous Voltage Regulation by means of Premagnetizing a Shunt

continuous voltage regulation in an automatic butt welding machine yielded favourable results. In this paper the principle of operation and the design of such a transformer for electric contact welding is described. A sketch of the produced welding transformer is reproduced in Fig 1. The copper and steel consumption for producing such transformers is somewhat higher than for transformers with step-wise voltage regulation. The experimental specimen of such a transformer for contact welding has a rating of 3 kVA, a maximum welding current of 4000 A and for a constant load the ratio of the regulation limits of the welding current is 1:2,3, the secondary voltage during welding is 0,96 to 1,62 V, the weight 74 kg. The winding data of the transformer are entered in Table 1, p 65. The authors believe that transformers of this type will prove useful as welding transformers.

SOV/144-58-9-8/18

Welding Transformer with Continuous Voltage Regulation by means of Premagnetizing a Shunt

There are 4 figures, 1 table and 4 Soviet references.

ASSOCIATION: Kafedra obshchey i teoreticheskoy elektrotekhniki i elektricheskikh mashin i apparatov Gor'kovskogo politekhnicheskogo instituta (Chair of General and Theoretical Electrical Engineering and of Electrical Machinery and Apparatus, Gor'kiy Polytechnical Institute)

SUBMITTED: June 4, 1958

Card 3/3

AUTHOR: Pogodin, Yu.Ya., Suchkov, V.A., and Yanenko, N.N. (Chelyabinsk) 40-22-2-6/21

TITLE: On Running Waves in the Equation of Gas Dynamics (O begushchikh volnakh uravneniy gazovoy dinamiki)

PERIODICAL: Prikladnaya matematika i mekhanika, 1958, Vol 22, Nr 2, pp 188-196 (USSR)

ABSTRACT: The authors investigate running waves in quasilinear differential equations of the type

$$A_{ijk}(u_1,\ldots,u_m)\frac{\partial u_j}{\partial x_k} = 0 \qquad (i,j,k, = 1,\ldots,m)$$

They denote a running wave to be of rank r, if it satisfies m - r functional dependences of the form

$$\varphi_\alpha(u_1,\ldots, u_m) = 0 \qquad (\alpha = 1,\ldots, m - r)$$

In a former paper there were investigated running waves of the rank 1 . In the present paper now waves of the rank m - 1 are investigated. A method for finding such waves is given and applied to gasdynamical problems. It can be shown that the

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On Running Waves in the Equation of Gas Dynamics 40-22-2-6/21

gasdynamical equations possess the given form for polytropic gases. Running waves for plane motions of rank 2 for poly - tropic gases are particularly investigated and the solutions are discussed. Several practical examples of application are calculated in the last section. E.g. the motion of a gas between two plane walls, the motion of isothermal gases, and motions in which strong discontinuities occur.
There are 5 figures, and 1 Soviet reference.

SUBMITTED: October 8, 1957

1. Gases--Properties 2. Wave analysis--Applications

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gument.

Theorem: If $\varphi = C_0 + C_1 u_1 + C_2 u_2 - \frac{u_1^2 + u_2^2}{2}$, then all flows are conic. For other solutions φ of (1) in general they are not conic, however, to each solution φ there corresponds a certain solution of a transformed initial equation which describes a conic flow.

These theoretical results are used for the solution of the problem of two plane pistons. There is 1 Soviet reference.

PRESENTED: September 21, 1957, by A.D. Sakharov, Academician

SUBMITTED: November 21, 1957

SUCHKOV, V.A.

66158

~~16(1)~~ 16.3500, 16.3900, 16.6500 SOV/20-128-5-10/67

AUTHORS: Yanenko, N.N., Suchkov, V.A., Pogodin, Yu.Ya.

TITLE: Difference Solution of the Thermal Conductivity Equation in Curvilinear Coordinates

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5, pp 903-905 (USSR)

ABSTRACT: In the domain $D(0 \leqslant x_i \leqslant 1)$ with the boundary Γ the authors solve the mixed Cauchy problem

$$(1) \quad \frac{\partial u}{\partial t} = \sum_{i,j=1}^{2} a_{ij} \frac{\partial^2 u}{\partial x_i \partial x_j} \equiv Lu, \quad a_{11}a_{22} - a_{12}^2 > 0, \quad a_{ij} = \text{const}$$

$$(2) \quad u(x_1, x_2, 0) = \varphi(x_1, x_2) \quad x_i \in D$$
$$u|_{\Gamma} = f(x,t), \quad 0 \leqslant t \leqslant T, \quad x \in \Gamma$$

They apply the scheme

$$(5) \quad \frac{u^{n+\frac{1}{2}} - u^n}{\tau} = \Lambda_{11} u^{n+\frac{1}{2}} + \Lambda_{12} u^n$$

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Difference Solution of the Thermal Conductivity Equation in Curvilinear Coordinates

$$(5)\quad \frac{u^{n+1}-u^{n+1/2}}{\tau} = \Lambda_{12}u^{n+1/2} + \Lambda_{22}u^{n+1},$$

where

$$\Lambda_{11}=a_{11}\frac{\Delta_1\Delta_{-1}}{h_1^2},\quad \Lambda_{12}=a_{12}\frac{(\Delta_1+\Delta_{-1})(\Delta_2+\Delta_{-2})}{4h_1h_2},\quad \Lambda_{22}=a_{22}\frac{\Delta_2\Delta_{-2}}{h_2^2}$$

$$(3)\quad \Delta_i = T_i - E,\quad \Delta_{-i} = E - T_{-i},\quad i=1,2$$

$$T_{\pm 1}u = u(x_1 \pm h_1, x_2),\quad T_{\pm 2}u = u(x_1, x_2 \pm h_2).$$

The scheme approximates (1), is spectrally stable and converges. The scheme can be used for the calculation of the equation of heat conductivity in Lagrange coordinates.

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SOV/20-128-5-10/67

Difference Solution of the Thermal Conductivity Equation in Curvilinear Coordinates

There are 2 references, 1 of which is Soviet, and 1 American.

PRESENTED: June 6, 1959, by N.N.Bogolyubov, Academician

SUBMITTED: March 7, 1959

4

Card 3/3

BAMDAS, A.M., doktor tekhn. nauk, prof.; SUCHKOV, V.A., inzh.; SHAPIRO, S.V., inzh.; SHMIDT, A.O., inzh.

New designs of transformers with shunt excitation regulation. Trudy GPI 16 no.5:34-43 '60. (MIRA 16:4)

(Electric transformers)

Suchkov, V. A

S/103/60/021/06/15/016
B012/B054

AUTHORS: Bamdas, A. M., Kulinich, V. A., Somov, V. A., Suchkov, V. A., Shapiro, S. V., Shmidt, A. O., Gu Shen-gu (Gor'kiy)

TITLE: New Electromagnetic Control Organs for Automatic Control Systems

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 6, pp. 907 - 917

TEXT: New transformers were designed at the Gor'kovskiy politekhnicheskiy institut im. A. A. Zhdanova (Gor'kiy Polytechnic Institute im. A. A. Zhdanov) for the construction of control organs for automatic control systems without switching contacts, mobile parts, or electronic elements (Ref., Footnote on p. 907). They are controlled by changing the premagnetization of shunts located in the secondary windings (Fig. 1). Such control organs of a capacity of 0.1 ÷ 150 kva are used in a number of plants in the USSR. A single-phase transformer of this type of 5600 kva is being developed at present. The various systems of such transformers are de-

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scribed here. The data refer to investigations carried out in 1959 but not yet published. The paper of Ref. 2 reported on previous investigations. First, the authors describe two principal constructions of single-phase transformers of this type: one for controllers with effective control, the other for control elements of various stabilizers. These constructions are shown in Figs. 2 and 3, respectively. Some of their parameters are characterized. Fig. 4 shows the circuit diagram of an automatic control of an electric drive with voltage stabilization and abrupt cutoff. As second group of these new transformers, single-phase transformers with feedback are described. The use of an external feedback (Fig. 5) reduces the intensity of the control signal without reducing the weight of the transformer. An internal feedback, however, leads to a relative reduction of the copper weight of the transformer by about 15 %. The parameters of a 1.33-kva transformer are indicated. The authors give a mathematical analysis of the operation of a transformer of the new type. It is shown that such an ideal transformer, like an ideal magnetic amplifier, is an aperiodic member of the first order with a time constant according to formula (6). Next, the authors describe their group transformer with three single-phase transformers of the type mentioned (Fig. 8). It is used for

the continuous control of a three-phase voltage with symmetric loads of the phases. The experiments showed that the characteristics of the group transformer are satisfactory. Finally, the authors describe static converters of the number of phases with a transformer of the new type mentioned (Fig. 9). The analysis shows that the stabilization of the symmetry of a multiphase system requires an adjustment of the parameters of the control organ, i.e., the converter. The curves in Fig. 10 show what relative values the inductances and capacitances of the converter branches (on conversion of a single-phase current into a three-phase current) must have at a change of the relative values of the apparent power and at different power coefficients. The parameters may be changed automatically (Ref., Footnote on p. 916) if the control organ elements are adjustable. Such elements may be saturation chokes, or new transformers of the type described. Fig. 11 shows a corresponding modification of the circuits shown in Fig. 9. There are 11 figures and 8 Soviet references.

VB

SUCHKOV, V.A., inzh.

Comparison of self-biased transformers with shunt bias regulation and saturable reactors with d.c. output. Trudy GPI 18 no.1:72-82 '62. (MIRA 18:7)